



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/134,478	08/14/1998	TAKAFUMI NOGUCHI	2091-0162P	8041

2292 7590 03/21/2006

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

HENN, TIMOTHY J

ART UNIT	PAPER NUMBER
----------	--------------

2622

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/134,478

Applicant(s)

NOGUCHI, TAKAFUMI

Examiner

Timothy J. Henn

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 12 and 18 is/are allowed.
- 6) ☒ Claim(s) 1, 5, 8, 16, 17 and 19 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6, 7, 14, 15 and 20-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06 March 2006 has been entered.

Response to Arguments

2. Applicant's arguments filed 06 March 2006 have been fully considered but they are not persuasive. Applicant argues that Ozawa does not disclose adjusting an image so that a rate of pixels having a maximum brightness is equal to a predetermined rate. The examiner notes that nowhere in the claims is the "predetermined rate" defined. As such, since the original histogram and lookup table of Ozawa are determined prior to the creation of the transformed image data, the rate of pixels having a maximum brightness is determined by virtue of having known inputs to the system, and therefore the system of Ozawa can be read on the claims as written. While the system of Applicant's invention uses the predetermined rate as a goal for the output image and customizes the image processing in order to meet that goal, the claims do not require such a system.

3. The amendments to claim 18 overcome the previous objections which are hereby withdrawn.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 5, 13, 17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozawa et al. (US 6,080,104).

[claim 1]

Regarding claim 1, Ozawa discloses a method of adjusting the brightness of an image, the method comprising the steps of: acquiring image data by an image acquisition device (Figure 9, Items 110, 24 and 25; c. 7, ll. 9-24); expressing a pixel value of each pixel in the image data as a set of three mutually independent components (RGB); defining the brightness of each pixel based on the three components (c. 7, ll. 19-24); and making an adjustment to the image so that a rate of pixels having a maximum brightness is equal to a predetermined rate (Figures 10-13; c. 7, l. 52 - c. 8, l. 38). The examiner notes that Ozawa discloses taking a histogram of brightness data (Figure 10) and transforming it into a normalized histogram (Figure 12)

which is used to create a luminance lookup table (c. 8, ll. 1-7). The lookup table and the original histogram are then used to create a converted histogram (Figure 13) with a rate of pixels which have a maximum value. Since the original histogram and the lookup table are both known or determined before the creation of the converted histogram, the rate of pixels which have a maximum value is a "predetermined rate" as claimed.

[claim 5]

Regarding claim 5, Ozawa discloses an image acquisition device which is a data acquisition device for acquiring an image as digital data and the adjustment to the image is a data transformation process of transforming the acquired digital data (Figure 9).

[claim 13]

Regarding claim 13, Ozawa discloses an image processor comprising: data acquisition means for acquiring an image as digital data in which a pixel value of each pixel is expressed as a set of three mutually independent components (Figure 9, Items 110, 24 and 25; c. 7, ll. 9-24; RGB); brightness analyzing means for computing a histogram of the brightness of the pixel defined based on the three components for the digital data acquired by the image pickup means (Figure 10; c. 7, ll. 19-24; c. 7, ll. 42-57); and data transformation means for automatically performing a data transformation process on the acquired digital data according to the histogram so that a rate of pixels having a maximum brightness is equal to a predetermined rate (Figures 10-13; c. 7, l. 52 - c. 8, l. 38). The examiner notes that Ozawa discloses taking a histogram of brightness data (Figure 10) and transforming it into a normalized histogram (Figure 12)

which is used to create a luminance lookup table (c. 8, ll. 1-7). The lookup table and the original histogram are then used to create a converted histogram (Figure 13) with a rate of pixels which have a maximum value. Since the original histogram and the lookup table are both known or determined before the creation of the converted histogram, the rate of pixels which have a maximum value is a "predetermined rate" as claimed.

[claim 17]

Regarding claim 17, the examiner notes that Ozawa discloses expressing pixels as a RGB color value (c. 7, ll. 9-24), for further details see claim 1.

[claim 19]

Regarding claim 19, the examiner notes that Ozawa discloses expressing pixels as a RGB color value (c. 7, ll. 9-24), for further details see claim 13.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al. (US 6,080,104) in view of Nagasaka et al. (US 6,157,744).

[claims 8 and 16]

Regarding claims 8 and 16, Ozawa does not disclose determining the luminance according to the equation $L = \text{Max}(R, G, B)$. Nagasaka teaches that the maximum of RGB values can be used a luminance value (c. 7, ll. 36-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use

the maximum value of RGB as a substitute for the luminance value instead of calculating the luminance using the mathematical definition in order to reduce the amount of processing required.

Allowable Subject Matter

8. Claims 2-4, 6, 7, 14, 15 and 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

[claims 2 and 20-23]

Regarding claim 2, the prior art does not teach or fairly suggest adjusting an image so that a rate of pixels having a maximum brightness value is equal to a predetermined rate, wherein the adjustment is a pre-photography adjustment to an exposure value using previous acquired image data as claimed.

[claims 3, 4, 6, 7, 14 and 15]

Regarding claims 3, 4, 6, 7, 14 and 15, the prior art does not teach or fairly suggest adjusting an image so that a rate of pixels having a maximum brightness value is equal to a predetermined rate, wherein the adjustment is made based on the claimed equations.

[claim 24]

Regarding claim 24, the prior art does not teach or fairly suggest a method of adjusting the brightness of a captured image wherein the brightness is made equal to a predetermined rate wherein the predetermined rate is predetermined prior to capturing

the image data.

9. Claims 9, 12 and 18 are allowed.

[claims 9 and 12]

Regarding claims 9 and 12, the prior art does not teach or fairly suggest a digital camera comprising image pickup means, brightness analyzing means for computing a histogram of brightness and exposure control means for making an adjustment to an exposure value at the time of photography according to the histogram so that a rate of pixels having a maximum brightness is equal to a predetermined rate as claimed. While it is known in the art to change the exposure value if the image is found to be over or under-exposed, it is not known to change the exposure value in order to make a rate of pixels having a maximum brightness equal to a predetermined rate.

[claim 18]

Regarding claim 18, the prior art does not teach or fairly suggest a digital camera comprising image pickup means, brightness analyzing means for computing a histogram of brightness and exposure control means for making an adjustment to an exposure value at the time of photography according to the histogram so that a rate of pixels having a maximum brightness is equal to a predetermined rate as claimed. While it is known in the art to change the exposure value if the image is found to be over or under-exposed, it is not known to change the exposure value in order to make a rate of pixels having a maximum brightness equal to a predetermined rate

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH
3/16/2006

A handwritten signature in black ink, appearing to read 'David Ometz', with a long horizontal line extending to the right.

DAVID OMETZ
SUPERVISORY PATENT EXAMINER